

REMARKS

Claims 25-48 were examined in the last office action. Claims 25, 31 and 48 have been amended. Claims 27-30 have been canceled, without prejudice, and new claims 49-52 have been added. Of the above, claims 25 and 49 are independent.

No new matter has been added. The features of canceled claims 27, 29 and 30 have been added to claim 25. Canceled claim 28 is therefore unnecessary. The amendment to claim 48 was made to clarify antecedent basis in the claim. New claim 49 combines the features of claims 25, 32, 33, 36 and allowable claim 37, thus putting claim 49 in condition for allowance. New claims 50-52 correspond to claims 26-28, respectively, depend from allowable claim 49 and are therefore also allowable.

Interview Summary

Applicant's attorney called the Examiner on or about June 16, 2009, as indicated in the Interview Summary attached to the Action dated June 19, 2009. The Examiner had earlier mailed an Action on June 11, 2009, which rejected certain claims in the body of the Action, but did not list those claims as being rejected in the introductory portion of that section of the Action. Nothing of substance was discussed about the Action, but clarification was requested, and the Examiner kindly mailed a new Action on June 19th.

The present paper responds to the June 19, 2009 Action. Applicant thanks the Examiner for the courteous phone call and the prompt issuance of the June 19 Action.

Claim Rejections – 35 USC § 112

Claim 48 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended claim 48 and has overcome the rejection.

Claim Rejections – 35 USC § 102 and 35 USC § 103

Claims 25-26, 32, 33, 39-41, and 44-48 were rejected under 35 U.S.C. 102(b) as being anticipated by Matsuoka Tomoichi (JP 2001-280888).

Claims 25, 26, 28-36 and 38-46 were rejected under 35 U.S.C. 102(b) as being anticipated by Andersson et al. (US 5,924,484).

As noted above, the features of claims 27, 29 and 30 have been added to claim 25, thus rendering each of the above-noted rejections moot.

Claim 27 was rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuoka or Andersson et al.

As noted above, the features of claims 27, 29 and 30 have been added to claim 25. Since claims 29 and 30 were not rejected under 35 U.S.C. 102(b) over Matsuoka, the amendments to claim 25 have rendered moot at least that Section 102(b) rejection. It is urged that the amendments have overcome the remaining rejections as well.

The remaining rejections are respectfully traversed and are urged to be overcome in view of the amendments made to independent claim 25 and the following arguments.

The claimed invention provides a plate heat exchanger which ensures a sufficient pressure drop in a cooling agent at the entrance into a respective plate interspace. The arrangement of the inlet nozzle and outlet nozzle extending through the second heat exchanger plates provides for a simpler manufacturing process for making the plate heat exchanger than that known from the prior art, which has additional components in the plate heat exchanger between the heat exchange plates. In the claimed combination, an inlet nozzle and an outlet nozzle in the form of a small hole in the second heat exchanger plates can provide an effective throttling of the heat exchanging medium.

The Matsuoka reference (JP 2001-280888) discloses (see Figs, 1, 2 and 5) a number of separate closed spaces 23 which are provided in connection to the inlet port P. The closed space

23 is formed by an annular closed body introduced between heat exchanger plates in the plate heat exchanger. The closed space 23 comprises an inlet nozzle 22 and an outlet nozzle 24. The medium, which is conveyed into the plate heat exchanger through the inlet port P, must pass through the closed space 23 via these nozzles 22 and 24 prior to reaching the heat exchanger interspaces. Because each closed space is formed by a separate additional component introduced into the plate heat exchanger, the manufacturing of Matsuoka's plate heat exchanger is much more complicated than the manufacturing of the presently claimed invention. Unlike Matsuoka's structure, applicant's claim 25 and its dependent claims call for the nozzles 13, 14 to extend "through each of the second heat exchanger plates."

There is no discernable reason why one of ordinary skill in the art at the time the claimed invention was made would modify Matsuoka's structure, which uses an annular closed body, and place the nozzles "through each of the second heat exchanger plates." It is urged, therefore, that claim 25 and its dependent claims would not have been obvious at the time the invention was made over the Matsuoka reference.

The Andersson reference (US 5,924,484) corresponds to SE-C-502984 which was cited as "not considered to be of particular relevance" in the International Search Report issued in the PCT application upon which the instant application is based. Furthermore, SE-C-502984 has been described on page 2 of the present specification. Andersson does not disclose or suggest a "separate space" according to the present application and claims. Andersson's inlet port channel communicates with the first plate flow passage 13 via only one restriction. In Fig. 2 of Andersson, the restriction is formed by a hole 18 made in the heat exchanger plates. In Fig. 4 of Andersson, the restriction is formed by the channel 21. Contrary to the statement made on page 8 of the Action concerning the Andersson reference, the space indicated as a "separate space" in the Action is not separate at all, but is a part of the first flow passage 13. There is no restriction of the flow passage between the "separate space" attributed in the Action to the Andersson structure and the remaining part of the first flow passage 13.

Again, there is no discernable reason why one of ordinary skill in the art at the time the claimed invention was made would modify Andersson's structure, which does not disclose or

suggest a separate space as called for in applicant's claims, to arrive at applicant's claimed structure. It is urged, therefore, that claim 25 and its dependent claims are not anticipated by, and would not have been obvious at the time the invention was made over, the Andersson reference.

It is urged that rejected claims are allowable for at least the indicated reasons.

Allowable Subject Matter

Applicant thanks the Examiner for the indication that claim 37 is allowable. As mentioned above, in addition to claim 37, new claims 49-52 include the features of allowable claim 37, its base claim and its intervening claims and are also therefore allowable.

The remaining claims (25-26, 31-36 and 38-48) are also allowable, for the reasons given above.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply the \$130 fee for a one-month extension of time and any other charges or credits to deposit account 06-1050.

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Respectfully submitted,

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